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Arizona Electric Power Cooperative, Inc.

Integrated Resource Planning
Actual Data Filing

Demand and Supply
2008

Docket # E-00000H-09-0113

Pursuant to Rule R14-2-703 A-B
Of the Arizona Administrative Code
With Decision Number 60385 Modifications
Corporation Commission – Fixed Utilities

Public Filing

March 31, 2009

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2008 Integrated Resource Planning Actual Data Filing

R14-2-703. Utility reporting requirements

A. Demand side data. Each utility shall provide the Commission staff the demand data in subsection (A)(1) through (9) below within 90 days of the effective date of these rules and shall provide staff with updated and revised data by April 1 of each year thereafter. If records are not maintained for any item, the utility shall provide its best estimates, such as sample survey data, application factors from one years data to another year, or other methods, and fully describe how such estimates were made.

1. Hourly demand for the previous calendar year disaggregated by:

    a. Sales to end users
    b. Sales for resale
    c. Energy losses
    d. Other disposition of energy such as energy furnished without charge and energy used by the utility.

3. Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

B. Supply-side data. Each utility shall provide the Commission staff the supply data indicated in subsection (B)(1) through (4) within 90 days of the effective date of these rules and shall provide staff with updated and revised data by April 1 of each year thereafter. If records are not maintained for any item, the utility shall provide its best estimates and fully describe how those estimates were made.

1. For each generating unit and purchased power contract for the previous calendar year:

    a. In-service date
    b. Book life or contract period
    c. Capacity in megawatts (utility share)
    d. Maximum unit or contract capacity by hour, or month, if such capacity varies over the year
    e. Forced outage rate (generating units only)
    f. Average heat rate of generating units and, if available, heat rates at selected output levels
    g. Fuel cost for generating units in dollars per million Btu for each type of fuel,
    h. Other variable operating and maintenance costs for units in dollars per megawatt hour
    i. Purchased power energy costs for contract purchases in dollars per megawatt hour
    j. Fixed operating and maintenance costs of generating units in dollars per megawatt for the year
    k. Demand charges for purchased power

l. Fuel types for generating units
m. Minimum capacity at which the unit would be run or power must be purchased
n. Whether, under standard operating procedures, the generating unit must be run if it is available to run
o. Maintenance schedules for generating units
p. Other data related to generation units and purchased power contracts which the utility uses in its production, planning and supply models

2. For the power supply system for the previous calendar year:

   a. A description of unit commitment procedures
   b. Production cost
   c. Reserve requirements
   d. Spinning reserves
   e. Reliability of generation, transmission and distribution systems
   f. Interchange purchase and sale prices
   g. Energy losses

3. The level of cogeneration and other forms of self-generation in the utility's service area for the previous calendar year.

4. As available, a description and map of the utility's transmission system, including the capacity of each segment of the transmission system.

R14-2-703. Additional requirements from ACC Decision 58643

"It is further ordered that each utility shall develop a database of existing renewable energy resources within its service area within six months from the effective date of this Decision; these inventories shall be revised annually and submitted to Staff each year as part of the historical data filings required under the IRP rules."

"It is further ordered that Arizona Public Service Company, Tucson Electric Power Company, Arizona Electric Power Cooperative, and Citizens Utilities Company shall increase their collection of end use load data, obtain commercial and industrial energy sales data by Standard Industrial Classification (SIC) category, collate that information with data on commercial and industrial customers such as number of employees in each SIC category, furnish Staff with a copy of the data to enable Staff to conduct independent analyses, and that Arizona Public Service Company, Tucson Electric Power Company, Arizona Electric Power Cooperative, and Citizens Utilities Company shall include the data described above in their annual IRP data filings."

2008 Integrated Resource Planning Actual Data Filing

As per Docket No. U-0000-95-506, Decision No. 60385 the following sections of the IRP rules have been omitted from this Data Filing:

R14-2-703.A.2	hourly demand by customer class and entity
R14-2-703.A.4	number of customers by class
R14-2-703.A.5	heating and cooling degree days
R14-2-703.A.6	residential customer characteristics
R14-2-703.A.7	nonresidential customer characteristics
R14-2-703.A.8	reduction in load due to demand-side-management
R14-2-703.A.9	annual average prices of electricity

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 A.) Demand-side Data

1.) Hourly demand for the previous year disaggregated by:

a.) Sales to end users

Arizona Electric Power Cooperative, Inc. (AEPCO) sells at wholesale and to other utilities (distribution cooperatives) and does not sell directly to end users.

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 A.) Demand-side Data

1.) Hourly demand for the previous year disaggregated by:

d.) Other disposition of energy such as energy furnished without charge and energy used by the utility.

2008 Monthly Energy Used for Station Operation – MWh

Month	Station Energy
January	28,395.96
February	26,663.82
March	18,227.47
April	17,731.05
May	28,652.00
June	28,155.33
July	30,991.63
August	31,405.36
September	29,535.34
October	28,453.48
November	26,834.40
December	28,023.88
Annual	323,069.72

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 A.) Demand-side Data

3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

Energy disaggregated by customer class is on the following pages. Below is AEPCO's total firm load by month for the previous ten years.

Total Firm Coincidental Peak Demand – MW

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Jan	422	467	478	501	382	392	407	415	458	435
Feb	429	445	479	495	387	395	396	397	432	436
Mar	400	450	451	468	385	387	383	408	430	415
Apr	406	509	483	503	390	380	400	419	442	423
May	461	591	554	591	482	488	518	525	531	493
Jun	546	581	586	527	522	512	569	613	624	565
Jul	552	614	618	547	549	553	608	623	657	564
Aug	553	599	621	534	545	559	574	575	643	567
Sep	519	566	588	508	497	535	538	531	611	538
Oct	466	550	477	388	452	424	485	491	496	467
Nov	414	459	467	343	363	397	409	434	419	393
Dec	442	473	496	384	394	483	415	448	461	426

Note – Mohave Electric Cooperative, Inc is a Partial Requirements Member of AEPCO. As such, AEPCO only serves a portion of their load. Therefore, there may be a requirement that Mohave report separately on the portion of their load not served by AEPCO.

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 A.) Demand-side Data

3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

Total Energy Served – MWh

Month	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Jan	238054	277575	278237	276101	238420	237394	256301	266470	288033	282716
Feb	213305	262204	262232	263719	221538	220292	228799	237919	248930	261017
Mar	239043	278438	282765	298960	242926	236239	254022	268679	277409	273957
Apr	237689	268358	274466	279649	235991	214790	254496	266747	273905	268390
May	250356	320231	313600	297843	256505	264297	279433	303026	306770	287687
Jun	271712	331117	314892	262529	271476	273001	301849	330848	337187	315939
Jul	298671	344645	329010	284787	313624	317715	346040	350902	364431	329605
Aug	307432	318923	331295	279352	309289	303949	320016	327156	352825	328042
Sep	270608	302132	288482	244326	269807	260063	292169	288662	317315	294168
Oct	269321	282793	271613	216073	244955	231478	259413	264387	282760	269114
Nov	243099	282068	268881	201734	221361	223121	230996	235500	257255	234854
Dec	272382	294959	284943	229574	237364	253461	261814	280721	287624	262961
Annual	3111672	3563443	3500416	3134647	3063256	3035800	3285348	3421017	3594444	3408450

Note – Mohave Electric Cooperative, Inc is a Partial Requirements Member of AEPCO. As such, AEPCO only serves a portion of their energy needs. Therefore, there may be a requirement that Mohave report separately on the portion of their energy not served by AEPCO.

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 A.) Demand-side Data

3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

Residential Class - Energy Served – MWh

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2008 Integrated Resource Planning Actual Data Filing

R14-2-703 A.) Demand-side Data

3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

Irrigation Class - Energy Served – MWh

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R14-2-703 A.) Demand-side Data

3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

Small Commercial Class (< 350 kW) - Energy Served – MWh

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2008 Integrated Resource Planning Actual Data Filing

R14-2-703 A.) Demand-side Data

3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

Large Commercial Class (> 350 kW) - Energy Served – MWh

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2008 Integrated Resource Planning Actual Data Filing

R14-2-703 A.) Demand-side Data

3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

Special Contracts – Other Sales - Energy Served – MWh

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R14-2-703 A.) Demand-side Data

3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

Sales for Resale - Energy Served – MWh

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2008 Integrated Resource Planning Actual Data Filing

R14-2-703 A.) Demand-side Data

3.) Coincident peak demand (megawatts) and energy demand (megawatt hours) by month for the previous ten years disaggregated by customer class and, for nonresidential customers, if available, disaggregated by type of business.

Highway Lighting Class - Energy Served – MWh

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2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

a.) In-service date

In-Service Date of Generating Units & Purchased Power Contracts

Unit/Contract	In-Service Date
Gas Turbine 1	February, 1963
Steam Turbine 1	November, 1964
Gas Turbine 2	June, 1972
Gas Turbine 3	June, 1975
Gas Turbine 4	October, 2002
Steam Turbine 2	January, 1979
Steam Turbine 3	September, 1979
PNM	June, 1991
SCL-IP	January, 1969
Parker-Davis	January, 1969
SPPR	June, 2007
Gas Turbine 1	February, 1963

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

b.) Book Life or Contract Period

Expected Retirement Dates

Unit/Contract	Retirement Date
Gas Turbine 1	***
Steam Turbine 1	***
Gas Turbine 2	***
Gas Turbine 3	***
Gas Turbine 4	***
Steam Turbine 2	December, 2035
Steam Turbine 3	December, 2035
PNM	December, 2008
SCL-IP	***
Parker-Davis	***
SPPR	September, 2010
Gas Turbine 1	***

*** Indicates that no retirement date has been acknowledged or specified as of 12-31-08 and the unit/contract should be considered to be in-service through the long term planning horizon.

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

c.) Capacity in megawatts (utility share)

2008 Maximum Capacity - MW

Unit/Contract	Maximum Capacity
Gas Turbine 1	10
Steam Turbine 1	75
Gas Turbine 2	20
Gas Turbine 3	65
Gas Turbine 4	40
Steam Turbine 2	195
Steam Turbine 3	195
PNM	13
SCL-IP	8.86
Parker-Davis	23.8
SPPR	25
Gas Turbine 1	10

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

d.) Maximum unit or contract capacity by hour, day or month, if such capacity varies over the year.

2008 Seasonal Contract Capacity - MW

Month	SLC-IP	Parker-Davis	PNM	SPPR
January	2.398	18.400	13.000	0.000
February	2.398	18.400	13.000	0.000
March	2.398	23.800	13.000	0.000
April	11.669	23.800	13.000	0.000
May	11.669	23.800	13.000	0.000
June	11.669	23.800	13.000	25.000
July	11.669	23.800	13.000	25.000
August	11.669	23.800	13.000	25.000
September	11.669	23.800	13.000	0.000
October	2.398	18.284	13.000	0.000
November	2.398	18.284	13.000	0.000
December	2.398	18.284	13.000	0.000

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

e.) Forced outage rate (generating units only)

2008 Actual and Planning Forced Outage Rates - %

Unit	Actual FOR	Planning FOR
Steam Turbine 1	0.16	0.00
Gas Turbine 1	10.61	3.27
Combined Cycle (ST1 & GT1)	10.61	3.27
Gas Turbine 2	81.92	0.00
Gas Turbine 3	75.42	0.00
Gas Turbine 4	61.85	0.09
Steam Turbine 2	1.02	12.19
Steam Turbine 3	0.06	1.01

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

f.) Average heat rate of generating units, and, if available, heat rates at selected output levels.

2008 Average Heat Rate – Btu/kWh

Unit	2008 Average Heat Rate
Gas Turbine 1	37,227
Gas Turbine 2	17,212
Gas Turbine 3	19,940
Gas Turbine 4	11,941
Steam Turbine 1	11,087
Steam Turbine 2	10,563
Steam Turbine 3	10,636

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

g.) Fuel cost for generating units in dollars per million Btu for each type of fuel

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2008 Variable Fuel Data

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R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

h.) Other variable operating and maintenance costs for generating units in dollars per megawatt hour

2008 Variable Operating & Maintenance Costs - $/MWh

Unit	Variable O&M
Combined Cycle (ST1 & ST1)	$1.25
Gas Turbine 2	$4.00
Gas Turbine 3	$4.00
Gas Turbine 4	$1.25
Steam Turbine 2	$1.25
Steam Turbine 3	$1.25

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

i.) Purchase power energy costs for contract purchases in dollars per megawatt hour.

2008 Purchased Power Energy Costs - $/MWh

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2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

j.) Fixed operating & maintenance costs of generating units in dollars per megawatt for the year.

2008 Fixed Operating & Maintenance Costs - $/MW-yr

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2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

k.) Demand charges for purchase power

2008 Purchased Power Demand Costs - $/kw-month

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2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

1.) Fuel types for generating units.

2008 Primary & Secondary Fuel Types for Each Unit

Unit	Primary Fuel	Secondary Fuel
Combined Cycle (Gt-1 + St-1)	Gas	Oil
Gas Turbine 2	Gas	Oil
Gas Turbine 3	Gas	Oil
Gas Turbine 4	Gas	Oil
Steam Turbine 2	Coal	Gas
Steam Turbine 3	Coal	Gas

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

m.) Minimum capacity at which the unit would be run or power must be purchased.

2008 Minimum Capacity – MW

Unit	Minimum
Combined Cycle (Gt-1 + St-1)	35.0
Gas Turbine 2	6.0
Gas Turbine 3	15.0
Gas Turbine 4	10.0
Steam Turbine 2	120.0
Steam Turbine 3	120.0
PNM Purchase	0.0
SLC-IP Purchase	0.258
Parker-Davis Purchase	4.675
SPPR Purchase	25.0
Combined Cycle (Gt-1 + St-1)	35.0

*Contract capacity varies by month. Values shown are annual off-peak minimums.

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

n.) Whether, under standard operating procedures, the generating unit must be run, if it is available.

Identification of Must-Run Units

Under standard operating procedures, if they are available to run, Steam Turbine 2 and Steam Turbine 3 must run.

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

o.) Maintenance schedules for generating units.

2008 Scheduled Maintenance

Unit	Start Date	Start Hour	End Date	End Hour	Duration-Hr:Mn	Type of Outage*
GT1	1/11/2008	12:45:00	1/23/2008	11:45:00	287:00:00	PO
GT4	1/26/2008	10:19:00	1/26/2008	14:20:00	4:01:00	MO
ST3	2/29/2008	23:17:00	2/29/2008	24:00:00	0:43:00	MO
GT2	2/26/2008	13:46:00	2/26/2008	16:16:00	2:30:00	MO
ST2	3/8/2008	0:10:00	3/31/2008	24:00:00	575:50:00	PO
ST3	3/1/2008	0:00:00	3/4/2008	16:05:00	88:05:00	MO
GT4	3/17/2008	10:00:00	3/17/2008	11:45:00	1:45:00	MO
ST2	4/1/2008	0:00:00	4/21/2008	14:24:00	494:24:00	PO
ST2	4/22/2008	4:40:00	4/22/2008	5:16:00	0:36:00	PO
GT2	5/21/2008	8:05:00	5/21/2008	16:40:00	8:35:00	MO
GT4	6/3/2008	10:30:00	6/3/2008	14:45:00	4:15:00	MO
ST1	7/15/2008	10:25:00	7/15/2008	14:47:00	4:22:00	MO
ST3	8/27/2008	1:03:00	8/27/2008	6:01:00	4:58:00	MO
GT2	8/11/2008	9:48:00	8/11/2008	13:30:00	3:42:00	MO
GT3	8/26/2008	5:19:00	8/29/2008	14:36:00	81:17:00	MO
GT4	8/5/2008	7:00:00	8/5/2008	14:50:00	7:50:00	MO
GT-3	9/23/2008	4:45:00	9/25/2008	14:40:00	57:55:00	MO
GT-4	9/21/2008	7:30:00	9/21/2008	11:15:00	3:45:00	MO
ST-2	10/4/2008	0:05:00	10/6/2008	0:44:00	48:39:00	MO
GT-3	10/24/2008	6:45:00	10/24/2008	9:00:00	2:15:00	MO
GT-3	10/29/2008	7:48:00	10/29/2008	15:48:00	8:00:00	MO
ST2	11/6/2008	23:13:00	11/8/2008	5:05:00	30:08:00	MO
GT3	11/11/2008	7:00:00	11/13/2008	15:40:00	56:40:00	MO
GT3	11/17/2008	15:00:00	11/18/2008	15:12:00	24:12:00	MO

* PO – Planned Outage
MO – Maintenance Outage

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

AEPCO Current Planning Maintenance Cycle Assumptions

Apache ST-1	2008	1 week	January Timeframe
	2009	6 weeks	January - February Timeframe
	2010	1 week	January Timeframe
	2011	1 week	January Timeframe
	2012	1 week	January Timeframe
	2013	4 weeks	January - February Timeframe
	2014	1 week	January Timeframe
	2015	1 week	January Timeframe
	2016	1 week	January Timeframe
	2017	6 weeks	January - February Timeframe
	2018	1 week	January Timeframe
	2019	1 week	January Timeframe
	2020	1 week	January Timeframe
	2021	4 weeks	January - February Timeframe
	2022	1 week	January Timeframe
	2023	1 week	January Timeframe
	2024	1 week	January Timeframe
	2025	6 weeks	January - February Timeframe
Apache ST-2	2008	6 weeks	March-April Timeframe
	2010	4 weeks	March-April Timeframe
	2012	4 weeks	March-April Timeframe
	2014	6 weeks	March-April Timeframe
	2016	6 weeks	March-April Timeframe
	2018	4 weeks	March-April Timeframe
	2020	6 weeks	March-April Timeframe
	2022	4 weeks	March-April Timeframe
	2024	4 weeks	March-April Timeframe

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

AEPCO Current Planning Maintenance Cycle Assumptions

Apache ST-3	2009	4 weeks	March-April Timeframe
	2011	6 weeks	March-April Timeframe
	2013	4 weeks	March-April Timeframe
	2015	4 weeks	March-April Timeframe
	2017	6 weeks	March-April Timeframe
	2019	4 weeks	March-April Timeframe
	2021	4 weeks	March-April Timeframe
	2023	6 weeks	March-April Timeframe
	2025	4 weeks	March-April Timeframe
Apache GT-1	2008	4 weeks	January-February Timeframe
	2009	2 days	January Timeframe
	2010	10 weeks	January-March Timeframe
	2011	2 days	January Timeframe
	2012	4 weeks	January-February Timeframe
	2013	2 days	January Timeframe
	2014	8 weeks	January-March Timeframe
	2015	2 days	January Timeframe
	2016	4 weeks	January-February Timeframe
	2017	2 days	January Timeframe
	2018	10 weeks	January-March Timeframe
	2019	2 days	January Timeframe
	2020	4 weeks	January-February Timeframe
	2021	2 days	January Timeframe
	2022	8 weeks	January-March Timeframe
	2023	2 days	January Timeframe
	2024	4 weeks	January-February Timeframe
	2025	2 days	January Timeframe

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

AEPCO Current Planning Maintenance Cycle Assumptions

Apache GT-2	2008	2 days	January Timeframe
	2009	2 days	January Timeframe
	2010	2 days	January Timeframe
	2011	2 days	January Timeframe
	2012	2 days	January Timeframe
	2013	10 weeks	February-April Timeframe
	2014	2 days	January Timeframe
	2015	2 days	January Timeframe
	2016	2 days	January Timeframe
	2017	2 days	January Timeframe
	2018	2 days	January Timeframe
	2019	2 days	January Timeframe
	2020	2 days	January Timeframe
	2021	2 days	January Timeframe
	2022	2 days	January Timeframe
	2023	2 days	January Timeframe
	2024	2 days	January Timeframe
	2025	2 days	January Timeframe
Apache GT-3	2008	3 days	January Timeframe
	2009	3 days	January Timeframe
	2010	3 days	January Timeframe
	2011	3 days	January Timeframe
	2012	12 weeks	February-April Timeframe
	2013	3 days	January Timeframe
	2014	3 days	January Timeframe
	2015	3 days	January Timeframe
	2016	3 days	January Timeframe
	2017	3 days	January Timeframe
	2018	3 days	January Timeframe
	2019	3 days	January Timeframe
	2020	3 days	January Timeframe
	2021	3 days	January Timeframe
	2022	3 days	January Timeframe
	2023	3 days	January Timeframe
	2024	3 days	January Timeframe
	2025	3 days	January Timeframe

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

AEPCO Current Planning Maintenance Cycle Assumptions

Apache GT-4	2008	2 days	February Timeframe
	2009	2 days	February Timeframe
	2010	3 days	February Timeframe
	2011	8 weeks	January-March Timeframe
	2012	2 days	February Timeframe
	2013	2 days	February Timeframe
	2014	2 days	February Timeframe
	2015	2 days	February Timeframe
	2016	2 days	February Timeframe
	2017	2 days	February Timeframe
	2018	2 days	February Timeframe
	2019	2 days	February Timeframe
	2020	2 days	February Timeframe
	2021	2 days	February Timeframe
	2022	2 days	February Timeframe
	2023	2 days	February Timeframe
	2024	8 weeks	September-November Timeframe
	2025	2 days	February Timeframe

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

2008 Net Unit Generation – MWh

Month	St-1	Gt-1	St-2	St-3	Gt-2	Gt-3	Gt-4
January	0	63.18	127,617.50	129,521.20	61.1	160.93	159.32
February	0	0	120,139.90	121,914.20	4.296	41.522	1,395.17
March	0	0	27,558.80	110,840.90	0	0	523.05
April	0	0	17,714.16	121,725.70	0	181.02	3,773.99
May	0	0	125,979.84	128,556.60	3.736	540.64	1,317.68
June	1,689.97	608.76	117,752.55	123,188.60	0.00	503.50	4,366.76
July	7,764.98	2,131.64	121,700.20	126,141.70	0	1,176.96	3,043.03
August	11,313.78	2,551.99	126,030.99	125,835.80	36.96	293.853	4,238.47
September	6,799.19	1,380.25	131,553.37	123,125.50	9.97	65.19	4,822.34
October	3,267.04	1017.515	111,702.62	124,855.10	0	292.877	1,848.51
November	0	0	103,789.58	116,932.20	0	0	0.00
December	0	0	117,665.18	120,823.70	0	0.00	0.00
Annual	30,834.97	7,753.33	1,249,204.69	1,473,461.20	116.07	3,256.49	25,488.30

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

Inventory of Existing Renewable Resources – 2008

Duncan	April	2.040	Residential
Duncan	October	8.160	Residential
Graham	January	11.880	Residential
Graham	January	2.640	Residential
Graham	January	12.224	Residential
Graham	January	1.440	Residential
Graham	February	1.980	Residential
Graham	April	0.660	Nonresidential
Graham	April	3.400	Residential
Graham	May	3.400	Residential
Graham	May	1.980	Residential
Graham	May	2.912	Residential
Graham	May	6.240	Residential
Graham	May	4.160	Residential
Graham	June	6.120	Residential
Graham	June	3.060	Residential
Graham	June	4.080	Nonresidential
Graham	June	4.320	Residential
Graham	June	1.020	Nonresidential
Graham	June	1.020	Nonresidential
Graham	June	1.020	Nonresidential
Graham	July	7.392	Residential
Graham	July	6.272	Residential
Graham	August	4.080	Residential
Graham	August	5.376	Residential
Graham	August	3.120	Commercial
Graham	August	17.472	Residential
Graham	September	0.320	Nonresidential

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

Inventory of Existing Renewable Resources – 2008

Graham	September	8.160	Residential
Graham	September	3.136	Residential
Graham	September	14.976	Commercial
Graham	October	8.160	Residential
Graham	October	4.080	Residential
Graham	October	0.615	Nonresidential
Graham	October	0.160	Nonresidential
Graham	November	24.192	Commercial
Graham	November	6.800	Residential
Graham	November	0.680	Nonresidential
Graham	December	2.070	Residential
Graham	December	25.200	Commercial
Graham	January	1.000	Residential
Graham	May	1.800	Residential
Mohave	March	2.800	Residential
Mohave	April	2.800	Residential
Mohave	April	2.800	Residential
Mohave	April	6.000	Residential
Mohave	April	3.200	Residential
Mohave	April	3.400	Residential
Mohave	May	0.744	Residential
Mohave	May	0.700	Residential
Mohave	May	2.800	Residential
Mohave	June	2.976	Residential
Mohave	June	3.040	Residential
Mohave	June	2.976	Residential
Mohave	June	2.976	Residential
Mohave	July	2.100	Residential

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

Inventory of Existing Renewable Resources – 2008

Mohave	August	3.040	Residential
Mohave	August	3.040	Residential
Mohave	August	3.040	Residential
Mohave	September	3.040	Residential
Mohave	September	3.040	Residential
Mohave	September	3.040	Residential
Mohave	September	2.380	Residential
Mohave	September	3.040	Residential
Mohave	September	2.100	Residential
Mohave	November	5.070	Residential
Mohave	November	5.952	Residential
Mohave	November	3.040	Residential
Mohave	November	3.120	Residential
Mohave	November	3.120	Residential
Mohave	December	3.150	Residential
Mohave	December	3.040	Residential
Mohave	December	3.040	Residential
Mohave	April	1.900	Residential
Mohave	April	1.900	Residential
Mohave	April	1.900	Residential
Mohave	May	1.900	Residential
Mohave	June	1.900	Residential
Mohave	June	1.900	Residential
Mohave	June	1.900	Residential
Mohave	August	1.900	Residential
Mohave	August	1.900	Residential
Mohave	September	1.900	Residential
Mohave	September	1.900	Residential

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

Inventory of Existing Renewable Resources – 2008

Mohave	September	1.900	Residential
Trico	February	2.100	Residential
Trico	February	2.100	Residential
Trico	February	2.100	Residential
Trico	February	2.100	Residential
Trico	April	1.400	Residential
Trico	April	28.800	Commercial
Trico	April	1.330	Residential
Trico	May	2.040	Residential
Trico	May	4.560	Residential
Trico	May	6.080	Residential
Trico	May	3.500	Residential
Trico	May	3.150	Residential
Trico	July	1.020	Residential
Trico	July	6.840	Residential
Trico	August	2.040	Residential
Trico	September	2.340	Residential
Trico	September	7.215	Residential
Trico	September	7.215	Residential
Trico	October	5.250	Residential
Trico	October	2.340	Residential
Trico	October	4.000	Residential
Trico	October	3.150	Residential
Trico	October	3.440	Residential
Trico	November	2.160	Residential
Trico	December	3.200	Residential
Trico	December	1.000	Residential
Trico	February	3.100	Residential

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

Inventory of Existing Renewable Resources – 2008

Trico	February	2.500	Residential
Trico	February	2.900	Residential
Trico	February	2.200	Residential
Trico	February	2.500	Residential
Trico	February	2.500	Residential
Trico	March	2.200	Residential
Trico	March	2.900	Residential
Trico	March	3.100	Residential
Trico	April	3.100	Residential
Trico	April	3.100	Residential
Trico	April	3.100	Residential
Trico	May	2.200	Residential
Trico	May	3.100	Residential
Trico	August	3.100	Residential
Trico	August	3.100	Residential
Trico	August	2.800	Residential
Trico	August	2.600	Residential
Trico	October	2.600	Residential
Trico	October	3.400	Residential
Trico	October	3.100	Residential
Trico	November	2.900	Residential
Trico	December	2.200	Residential
Trico	December	3.100	Residential

Note: Sulphur Springs Valley Electric Cooperative (SSVEC) has elected to prepare its own Renewables report. Therefore, the totals above exclude SSVEC data.

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

2008 Blended Fuel Cost for Apache St-2

Confidential
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2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

1.) For each generating unit and purchased power contract for the previous calendar year:

p.) Other data related to generating units and purchased power contracts which the utility uses in its production planning and supply models.

2008 Blended Fuel Cost for Apache St-3

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2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

2.) For the power supply system for the previous calendar year

a.) A description of unit commitment procedures

2008 Commitment Procedures

In a normal year, Apache Steam units 2 & 3 are about equal in production costs. When both Steam Units 2 & 3 were committed, they were dispatched as equally as possible. The remaining units were measurably different in production costs, with the smaller units being more expensive to operate than the larger ones.

As a preference customer in 2008, AEPCO also had contract entitlements to Parker-Davis hydro and Salt Lake City Area Integrated Projects capacity (Colorado River Storage Project hydro). These hydro contracts were AEPCO's least expensive resources and were scheduled to the extent allowed in each contract against AEPCO's loads. This tends to level the output required from Apache Station and maximize station efficiency. AEPCO also entered into short-term economy and take-or-pay agreements that were used for fuel displacement and maintenance outage coverage. These other contract resources fit into the same operational mode as the aforementioned hydro contracts.

Thus, subject to availability, the units were generally committed in economic order against the net of load minus hydro and short-term, take-or-pay contracts. Departures from strict economic order occurred when short-term forecasts of net loads did not justify startup of the next higher-cost unit or continued commitment of a particular unit. In these cases, a smaller unit (i.e. the 20 MW peaker versus the 69 MW peaker, for instance) was started instead.

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

2.) For the power supply system for the previous calendar year

b.) Production cost

2008 Production Costs

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2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

2.) For the power supply system for the previous calendar year

c.) Reserve Requirements

2008 Actual Daily Average Reserve Requirements - MW

Month	Actual Reserves	Reserve Requirement
January	85	40
February	83	42
March	78	37
April	74	37
May	88	43
June	94	44
July	93	44
August	93	45
September	83	44
October	89	40
November	65	40
December	60	41

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

2.) For the power supply system for the previous calendar year

d.) Spinning reserves

2008 Actual Daily Average Spinning Reserves - MW

Month	Actual Reserves	Reserve Requirements
January	34	20
February	33	21
March	27	19
April	29	18
May	36	21
June	45	22
July	49	22
August	50	22
September	46	22
October	43	20
November	40	20
December	38	20

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

2.) For the power supply system for the previous calendar year

e.) Reliability of generation, transmission and distribution systems

2008 Transmission and Distribution Reliability

Month	Outage Hrs:Min:Sec	Average Number of Customers Affected
January	0:00:00	0
February	4:04:04	39,857
March	1:24:24	25,902
April	1:03:24	31,870
May	3:25:26	5,361
June	0:20:23	14,594
July	35:59:40	27,763
August	8:14:20	129,941
September	0:02:14	5,889
October	0:01:36	4,431
November	0:00:00	0
December	2:46:58	2,797

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

2.) For the power supply system for the previous calendar year

e.) Reliability of generation, transmission and distribution systems.

2008 Generation Reliability – Unscheduled Outage Hours

Month	St-1	Gt-1	St-2	St-3	Gt-2	Gt-3	Gt-4	Total
Jan	0.00	118.27	0.00	0.00	2.50	204.02	6.33	331.12
Feb	0.00	0.00	0.00	0.00	0.00	49.60	0.23	49.83
Mar	0.00	0.00	0.00	0.00	0.00	0.00	8.50	8.50
Apr	0.00	0.00	73.82	0.00	0.00	0.00	40.17	113.99
May	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.60
Jun	0.00	0.00	1.68	1.32	26.18	0.00	11.29	40.47
Jul	0.00	0.00	1.65	0.00	0.00	23.50	45.85	71.00
Aug	1.39	11.90	0.00	2.65	12.95	64.75	25.30	118.94
Sep	0.00	153.65	0.63	0.00	0.00	1.62	68.44	224.34
Oct	0.00	0.00	0.00	0.37	0.00	0.00	82.13	82.50
Nov	0.00	0.00	0.00	0.00	0.00	0.00	720.00	720.00
Dec	0.00	23.08	0.00	0.52	4.05	11.23	744.00	782.88
Annual	1.39	306.90	77.78	4.86	45.68	354.72	1752.84	2544.17

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

2.) For the power supply system for the previous calendar year

f.) Interchange purchase & sale prices

2008 Interchange Purchases

Month	MWh	Amount - $ *	$/MWh
January	42,709	$2,292,375.59	$53.67
February	33,862	$1,889,344.16	$55.80
March	142,794	$9,013,213.56	$63.12
April	130,558	$8,932,037.04	$68.41
May	49,361	$2,959,505.78	$59.96
June	81,000	$6,127,455.51	$75.65
July	79,717	$5,837,780.26	$73.23
August	70,992	$4,620,757.05	$65.09
September	47,460	$2,457,790.16	$51.79
October	35,597	$2,034,947.31	$57.17
November	32,204	$1,383,214.99	$42.95
December	40,241	$1,849,338.94	$45.96
Annual	786,497	$49,397,760.34	$59.40

* Does not include Transmission

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

2.) For the power supply system for the previous calendar year

f.) Interchange purchase & sale prices

2008 Interchange Sales

Month	MWh	Amount - $	$/MWh
January	111,047	$3,794,256	$34.17
February	102,381	$4,157,938	$40.61
March	105,315	$3,872,628	$36.77
April	99,819	$3,932,667	$39.40
May	108,238	$4,299,493	$39.72
June	110,232	$4,254,973	$38.60
July	117,502	$4,243,297	$36.11
August	120,880	$4,751,530	$39.31
September	104,422	$4,208,078	$40.30
October	108,012	$4,440,281	$41.11
November	100,546	$4,447,140	$44.23
December	105,666	$5,298,348	$50.14
Annual	1,294,061	$51,700,629	$480.47

* Monthly amounts have been normalized for prior period adjustments

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

2.) For the power supply system for the previous calendar year

g.) Energy losses

2008 Energy Losses

Month	MWh	Percent
January	5,720.91	1.90%
February	6,035.27	2.18%
March	7,528.13	2.63%
April	8,960.97	3.19%
May	5,644.95	1.87%
June	5,991.24	1.81%
July	6,990.08	2.04%
August	4,990.65	1.47%
September	-10,376.46	-3.56%
October	539.21	0.19%
November	-12,982.98	-5.17%
December	-12,982.98	-5.17%
Annual	16,058.99	5.66%

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

3.) The level of cogeneration and other forms of self-generation in the utility's service area for the previous calendar year.

Chemstar has 2.3 MW of generation in Mohave Electric Cooperative's service area, which is started upon notification from AEPCO that a peak load condition is about to occur. Eurofresh, Inc. has a self-generation unit in Sulphur Springs Valley Electric Cooperative's service area.

The Phelps Dodge Corporation has installed capacity of 135,964 kW at its Morenci location. Of this, approximately 60 MW is considered readily available. This generation is normally only run when the cost of non-firm energy is higher than Phelps Dodge's cost of generation, when non-firm energy is unavailable, or when substation problems limit their import capability.

There may be additional self-generation or cogeneration in the service area of which AEPCO is not aware.

2008 Integrated Resource Planning Actual Data Filing

R14-2-703 B.) Supply-side Data

4.) As available, a description and map of the utility's transmission system, including the capacity of each segment of the transmission system.

AEPCO has divested itself of all transmission assets. Southwest Transmission Cooperative, Inc. and other third party contractors serve our transmission needs.